

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for the production of organic solar cells or photodetectors, ~~particularly based on organic polymers~~, comprising the following steps:
a first organic n- or p-conductive semiconductor layer is applied to ~~an~~ a first electrode,
to the solid first organic semiconductor layer is applied a second organic semiconductor layer of the respective other conductivity whose solvent partially dissolves the first organic semiconductor layer, such that a portion of the first semiconductor mixes with a portion of the second semiconductor ~~and to form~~ a bulk heterojunction mixed layer ~~forms~~,
a second electrode is applied opposite the first electrode.
2. (Currently Amended) The method according to claim ~~1~~ 1, characterized in that the solvent for each ~~layer of the first and second organic semiconductor layers~~ is matched to the solubility of the semiconductor to be deposited in that layer.
3. (Currently Amended) The method according to ~~one of the preceding claims~~ claim 1, characterized in that the application of ~~a~~ the first or second organic semiconductor layer is effected by doctor-blading or by a printing process.
4. (Currently Amended) The method according to ~~one of the preceding claims~~ claim 1, characterized in that a conjugated polymer is used as donor.
5. (Currently Amended) The method according to ~~one of the preceding claims~~ claim 1, characterized in that a soluble methanofullerene is used as acceptor.

6. (New) A method for producing organic solar cells or photodetectors, comprising: applying a solution comprising a second organic semiconductor and a solvent on a first layer; the first layer comprising a first organic semiconductor that is at least partially soluble in the solvent; and

evaporating the solvent to form a second layer and a bulk heterojunction mixed layer between the first and second layers; the second layer comprising the second organic semiconductor and the bulk heterojunction mixed layer comprising a mixture of the first and second organic semiconductors.

7. (New) The method of claim 6, further comprising disposing the first layer on a first electrode before applying the solution.

8. (New) The method of claim 6, further comprising disposing a second electrode on the second layer after evaporate the solvent.

9. (New) The method of claim 6, wherein the solution is applied by spin-coating, doctor-blading, or by a printing process.

10. (New) The method of claim 6, wherein the first organic semiconductor is a conjugated polymer.

11. (New) The method of claim 6, wherein the second organic semiconductor is a fullerene.

12. (New) The method of claim 11, wherein the fullerene is a methanofullerene.

13. (New) An organic solar cell or photodetector, comprising:
a first layer comprising a first organic semiconductor;
a second layer comprising a second organic semiconductor; and
a heterojunction mixed layer disposed between the first and second layers; the
heterojunction mixed layer comprising a mixture of the first and second organic semiconductors.

14. (New) The organic solar cell or photodetector of claim 13, wherein the first
organic semiconductor is a conjugated polymer.

15. (New) The organic solar cell or photodetector of claim 13, wherein the second
organic semiconductor is a fullerene.

16. (New) The organic solar cell or photodetector of claim 15, wherein the fullerene
is a methanofullerene.

17. (New) The organic solar cell or photodetector of claim 13, further comprising a
first electrode and a second electrode, wherein the first layer, the second layer, and the
heterojunction mixed layer are disposed between the first and second electrodes.